

SLP20GI Module Series



Description

The **LSP** SLP20GI thermally protected Surge Protective Device is a self-protected device which is specially designed to be used in outdoor and commercial LED lighting fixtures for transient overvoltage protection. It is constructed with **LSP** thermally protected varistor technology. Its built-in thermal disconnect function provides additional protection to prevent catastrophic failure and fire hazard even under the extreme circumstances of varistor end-of-life or sustaining over voltage conditions.

The SLP20GI provides coordinated surge protection with more LED drivers than other SPDs due to its exceptionally low Measured Limiting Voltage (MLV) and Voltage Protection Level (U_p). This lower clamping voltage can also help to extend the life-time of the luminaire. It also features a built-in LED indicator that notifies when replacement of the module is needed.

Applications

- Outdoor and Commercial LED Lighting
- Roadway lighting
- Traffic lighting
- Digital signage
- Wall wash lighting
- Parking garage lighting
- Flood lighting
- Tunnel lighting
- Street lighting

Features

- Build-in LED Indication, saves maintenance time by identifying replacement need
- Thermally Protected
- Suitable for use in luminaire with Class I or Class II insulation*
- 20kA Maximum Discharge Current (I_{max}), 8/20 μ s
- High line-to-earth/ground resistance
- IP66: Dust-tight and water resistant
- Parallel or Series connected options
- IEC 61643-11/EN 61643-11 recognized*

* See [Part Numbering System](#) for exact details of voltages available for Class I and Class II installations, and [Device Ratings and Specifications](#) table for voltage specific approvals.



Street Lighting



Traffic Lighting



Packing Garage Lighting



Digital Signage



Wash Wall Lighting



Tunnel Lighting



Roadway Lighting



Flood Lighting

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Absolute Maximum Ratings

• For ratings of individual members of a series, see Device Ratings and Specifications chart

	SLP20GI Series	Units
Continuous:		
Steady State Applied Voltage:		
Max AC Voltage Range ($V_{M(AC)RMS}$)	150 to 510	V
Continuous Current	5	A
Transient:		
Maximum Discharge Current, 8/20 μ s Waveform (I_{max})	20,000	A
Nominal Discharge Current, 8/20 μ s Waveform (I_n)	10,000	A
Operating Ambient Temperature Range (T_A)	-45 to +75	°C
Storage Temperature Range (T_{STG})	-45 to +85	°C
Isolation Voltage Capability (When the thermal disconnect opens)	600	V
Insulation Resistance	>1,000	M Ω

CAUTION: Stresses above those listed in 'Absolute Maximum Ratings' may cause permanent damage to the device. This is a stress only rating and operation of the device at these or any other conditions above those indicated in the operational sections of this specification is not implied.

SLP20GI Series Device Ratings and Specifications

Part Number	Operating Voltage (VAC)	MCOV/ U_c ¹ (VAC)	Maximum Discharge Current ² I_{max} (A)	Nominal Discharge Current ³ I_n (A)	MLV ⁴ (V)	U_p ⁵ (V)	Safety Compliance
							IEC/EN 61643-11
SLP20GI320S	120-277	320	20,000	10,000	L-N: 810 L-G: 1560 N-G: 1570	L-N: 1000 L-G/PE: 3800 N-G/PE: 2900	X
SLP20GI510S	347-480	510	20,000	10,000	L-N: 1400 L-G: 1560 N-G: 1570	–	–

Glossary:

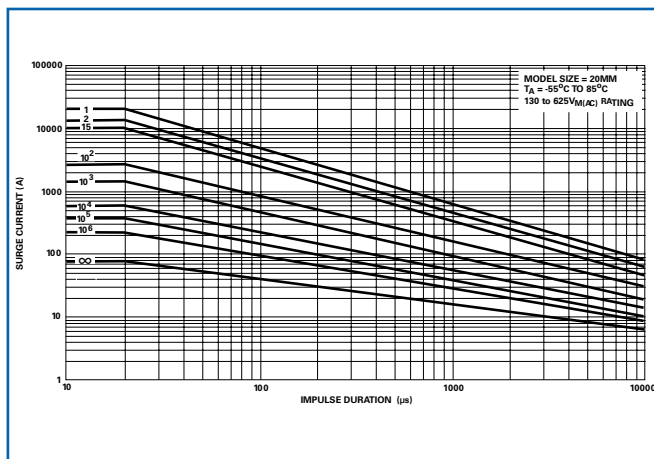
- MCOV/ U_c : Maximum Continuous Operating Voltage - maximum r.m.s. voltage that could be continuously applied to the SPD.
- Maximum Discharge Current I_{max} (A): The maximum discharge current is a measure of the SPDs maximum capability; single impulse of discharge current uses the 8/20 μ s current waveform. All Devices pass maximum discharge current with possible, safe opening of thermal disconnect.
- Nominal Discharge Current I_n (A): The nominal discharge current is a measure of the SPDs endurance capability; 15 impulses of discharge current uses the 8/20 μ s current waveform.
- MLV: Measured limiting voltage; the highest value of residual voltage measurements during the application of impulses of 8/20 μ s nominal discharge current (I_n); an average voltage value of 15 impulses.
- U_p : IEC 61643-11 Voltage protection level; the highest value of residual voltage measurements during the application of impulses of 8/20 μ s nominal discharge current (I_n); a rounding voltage value of maximum measurement.

Specification	Value	Condition
	120-277V	
Temporary Overvoltage (V) TOV UT @ $t_T = 5$ s	403	LV System Fault for TN Power Grid
Temporary Overvoltage (V) TOV UT @ $t_T = 120$ min	529	LV System Fault for TN Power Grid
Power grids	TN	
Backup fuse (A)	21	Maximum gG Fuse
End of life indication	Yes	Optical Light ON: SPD is functional Light OFF: SPD has reached end-of-life
Max earth leakage current at U_c (μ A)	50	
IEC 61643-11 Test Classification	Test Class II and III	
EN 61643-11 Type Classification	Type 2 and 3	

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Specification	Value	Condition
	120-480V	
Backup fuse (A)	30	UL Class RK5:FLSR30
End of life indication	Yes	Optical Light ON: SPD is functional Light OFF: SPD has reached end-of-life

Repetitive Surge Capability



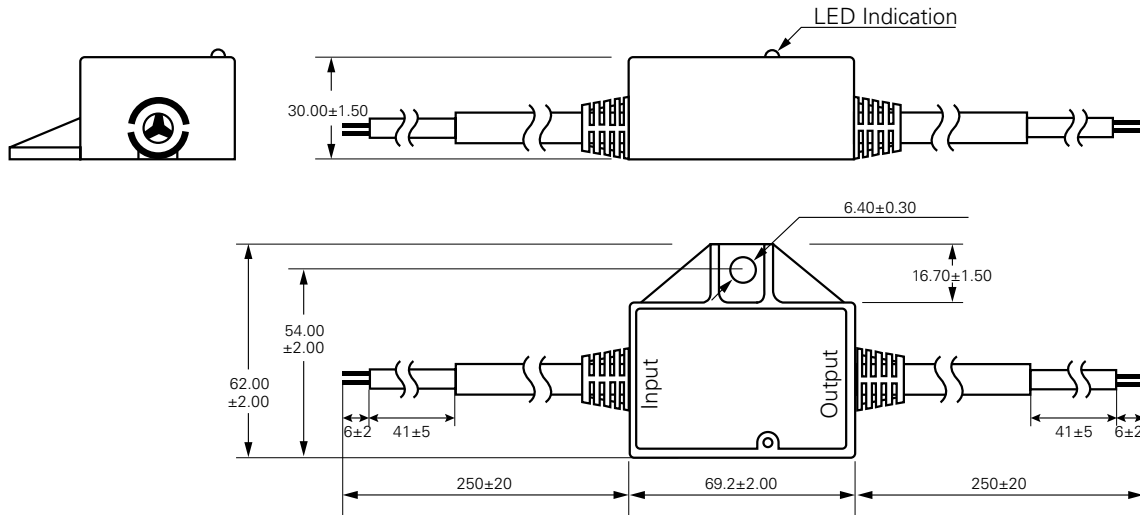
Pulse Rating (8x20µSec)	
Strikes	Surge
1	20,000A
2	15,000A
15	10,000A
100	3,000A
1,000	1,600A
1,0000	650A
1,00,000	400A
1,000,000	240A

SLP20GI Series Wire Specification

Part Number Extension	Length	Diameter	Double Insulation	Installation Class	Color
None	250mm ± 20mm	16AWG	Yes	–	L - Red N - Blue G/PE - Green with Yellow stripe

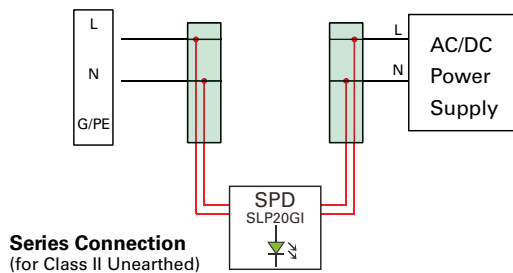
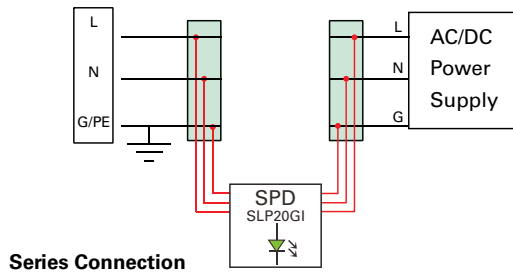
SLP20GI Module Series

Dimensions



Note: Dimensions are in millimeter (mm)

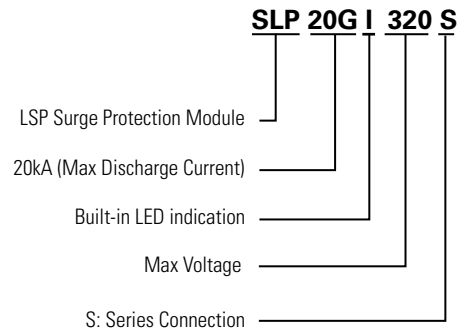
Application/Installation Schematic



Notes:

1. Green LED light on: SPD is good
2. Green LED light off: SPD needs replacement

Part Numbering System



Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. **LSP** products are not designed for, and may not be used in, all applications.